

What is claimed is:

1. A method for storing a full RGB dataset comprising the steps of:

providing an image sensor producing a full RGB dataset as three-color output data;

5 providing a digital storage device coupled to said image sensor;

sensing three-color digital output data representing said full RGB dataset from said image sensor; and

storing said three-color output data as digital data in said digital storage device without performing any interpolation on said three-color output data.

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2. The method of claim 1 wherein the step of providing said digital storage device comprises the step of providing a semiconductor memory device.

3. The method of claim 1 wherein the step of providing said digital storage device comprises the step of providing a magnetic storage device.

4. The method of claim 1 wherein the step of providing said digital storage device comprises the step of providing an optical storage device.

5. The method of claim 1 further including the step of performing a lossless compression operation on said three-color output data prior to the step of storing said three-color digital output data as digital data in said digital storage device.

5 6. The method of claim 1 further including the step of performing a nearly lossless compression operation on said three-color output data prior to the step of storing said three-color digital output data as digital data in said digital storage device.

10 7. A method for processing digital information from an image sensor comprising the steps of:

providing an image sensor producing a full RGB dataset as three-color output data;

providing a digital storage device coupled to said image sensor;

15 sensing three-color output data representing said full RGB dataset from said image sensor;

storing said three-color output data as digital data in said digital storage device without performing any interpolation on said three-color digital output data; and retrieving said three-color output data as digital data from said digital storage device.

8. The method of claim 7 wherein the step of providing said digital storage device comprises the step of providing a semiconductor memory device.

9. The method of claim 7 further including the steps of:

5 performing a lossless compression operation on said three-color output data prior to the step of storing said three-color output data as digital data in said digital storage device; and

performing a lossless decompression operation on said three-color output data after the step of retrieving said three-color digital output data as digital data from
10 said digital storage device.

10. The method of claim 7 further including the steps of:

performing a nearly lossless compression operation on said three-color output data prior to the step of storing said three-color output data as digital data in said
15 digital storage device; and

performing a nearly lossless decompression operation on said three-color output data after the step of retrieving said three-color digital output data as digital data from said digital storage device.

11. A method for storing digital information from a single-chip image sensor comprising the steps of:

providing a single-chip image sensor producing three-color output data at each of a plurality of pixel locations;

5 providing a digital storage device coupled to said single-chip image sensor;

sensing three-color digital output data from said single-chip image sensor;

and

storing said three-color output data as digital data in said digital storage device without performing any interpolation on said three-color output data.

12. The method of claim 11 wherein the step of providing said digital storage device comprises the step of providing a semiconductor memory device.

13. The method of claim 11 wherein the step of providing said digital storage device comprises the step of providing a magnetic storage device.

14. The method of claim 11 wherein the step of providing said digital storage device comprises the step of providing an optical storage device.

15. The method of claim 9 further including the step of performing a lossless compression operation on said three-color output data prior to the step of storing said three-color digital output data as digital data in said digital storage device.

5 16. The method of claim 9 further including the step of performing a nearly lossless compression operation on said three-color output data prior to the step of storing said three-color digital output data as digital data in said digital storage device.

10 17. A method for processing digital information from a single-chip image sensor comprising the steps of:

providing a single-chip image sensor producing three-color output data at each of a plurality of pixel locations;

providing a digital storage device coupled to said single-chip image sensor;

sensing three-color output data from said single-chip image sensor;

15 storing said three-color output data as digital data in said digital storage device without performing any interpolation on said three-color digital output data; and

retrieving said three-color output data as digital data from said digital storage device.

18. The method of claim 17 wherein the step of providing said digital storage device comprises the step of providing a semiconductor memory device.

19. The method of claim 17 further including the steps of:

5 performing a lossless compression operation on said three-color output data prior to the step of storing said three-color output data as digital data in said digital storage device; and

performing a lossless decompression operation on said three-color output data after the step of retrieving said three-color digital output data as digital data from said digital storage device.

20. The method of claim 17 further including the steps of:

15 performing a nearly lossless compression operation on said three-color output data prior to the step of storing said three-color output data as digital data in said digital storage device; and

performing a nearly lossless decompression operation on said three-color output data after the step of retrieving said three-color digital output data as digital data from said digital storage device.

21. A method for processing digital information from a triple-junction active pixel array comprising the steps of:

providing a triple-junction active pixel array producing a full RGB image data set;

5 providing a digital storage device coupled to said triple-junction active pixel array;

sensing the full RGB data set from said triple-junction active pixel array;

storing said full RGB data set as digital data in said digital storage device without performing any interpolation on said full RGB data set; and

10 retrieving said full RGB data set as digital data from said digital storage device.

22. The method of claim 21 wherein the step of providing said digital storage device comprises the step of providing a semiconductor memory device.

15 23. The method of claim 21 further including the steps of:

performing a lossless compression operation on said full RGB data set prior to the step of storing said full RGB data set as digital data in said digital storage device; and

performing a lossless decompression operation on said full RGB data set after the step of retrieving said full RGB data set as digital data from said digital storage device.

5 24. The method of claim 21 further including the steps of:

performing a nearly lossless compression operation on said full RGB data set prior to the step of storing said full RGB data set as digital data in said digital storage device; and

performing a nearly lossless decompression operation on said full RGB data set after the step of retrieving said full RGB data set as digital data from said digital storage device.

25. A method for processing digital information from a digital camera image capture and display system comprising the steps of:

15 providing a digital camera having a triple-junction active pixel array;

providing a digital storage device coupled to said triple-junction active pixel array;

producing a full RGB data set from said triple-junction active pixel array;

sensing the full RGB data set from said triple-junction active pixel array

20 into said digital storage device;

storing said full RGB data set as digital data in said digital storage device
without performing any interpolation on said full RGB data set; and
retrieving said full RGB data set as digital data from said digital storage
device.

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26. The method of claim 25 wherein the step of providing said digital storage
device comprises the step of providing a semiconductor memory device.

27. The method of claim 25 further including the steps of:

performing a lossless compression operation on said full RGB data set prior to the step of
storing said full RGB data set as digital data in said digital storage device; and
performing a lossless decompression operation on said full RGB data set after the step of
retrieving said full RGB data set as digital data from said digital storage device.

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28. The method of claim 25 further including the steps of:

performing a nearly lossless compression operation on said full RGB
data set prior to the step of storing said full RGB data set as digital data in said digital
storage device; and

performing a nearly lossless decompression operation on said full RGB data set after the step of retrieving said full RGB data set as digital data from said digital storage device.